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THE BRYOLOGIST

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DREPANOLEJEUNEA, A GENUS NEW TO NORTH AMERICAN HEPATICAE

CAROLINE COVENTRY HAYNES

Drepanolejeunea bidens, that we welcome to our Flora, has hitherto been known only in tropical America; western Europe possessing a similar case in the closely-related *Drepanolejeunea hamatifolia* (Hook.) Schiffn.

Mr. Albert Ruth made collections of Hepaticae in Tennessee which were determined by the late Professor L. M. Underwood. There were some "left-overs" that he evidently reserved for future study and among these the pocket "#6 Mts. of E. Tenn. Ruth" containing in mixture a large *Lejeunea* called by him *L. clypeata* and "+*Lej.* (interesting)" as he designated the unknown. Within the pocket a smaller one contained the latter species and was marked "6^a". The writer, while studying this little collection of "left-overs": the list of which will be given below, was at once attracted by this lovely minute species. Though unfortunately sterile, the strikingly characteristic underleaves and ventral lobes enabled her, after some study, to place it in this genus and Dr. Evans, when sent a specimen, added the specific name. These tiny underleaves stretch their slender widely-spreading divisions beyond the stem and when it is realized that these divisions are composed of not more than four cells placed in a single row, the size of the plant can be appreciated.

Dr. Evans has beautifully described this Genus and the closely-allied *Leptolejeunea* in his series on Hepaticae of Puerto Rico, *Bulletin of the Torrey Botanical Club* **29**: 496. 1902, and **30**: 29–30. 1903, and our species, *L. bidens* (Steph.) Evans, is described and figured in detail. Students will thoroughly enjoy studying these critical notes.

In the tropics this genus prefers to grow on the leaves of trees and occasionally on bark as was the case here in eastern Tennessee.

The writer will give the entire specific description and quote from the above two papers with the permission of the author:

"Drepanolejeunea bidens (Steph.) Evans

Lejeunea (*Drepano-Lejeunea*) *bidens* Steph. Hedwigia, **29**: 71. 1890.

"Yellowish-green, growing in thin and loose patches: stems 0.035 mm. in diameter, prostrate, irregularly pinnate, the branches widely spreading; leaves distant to subimbricated, the lobe suberect or obliquely spreading in the lower part, widely spreading above, convex, falcate-lanceolate, 0.35 mm. long, 0.08

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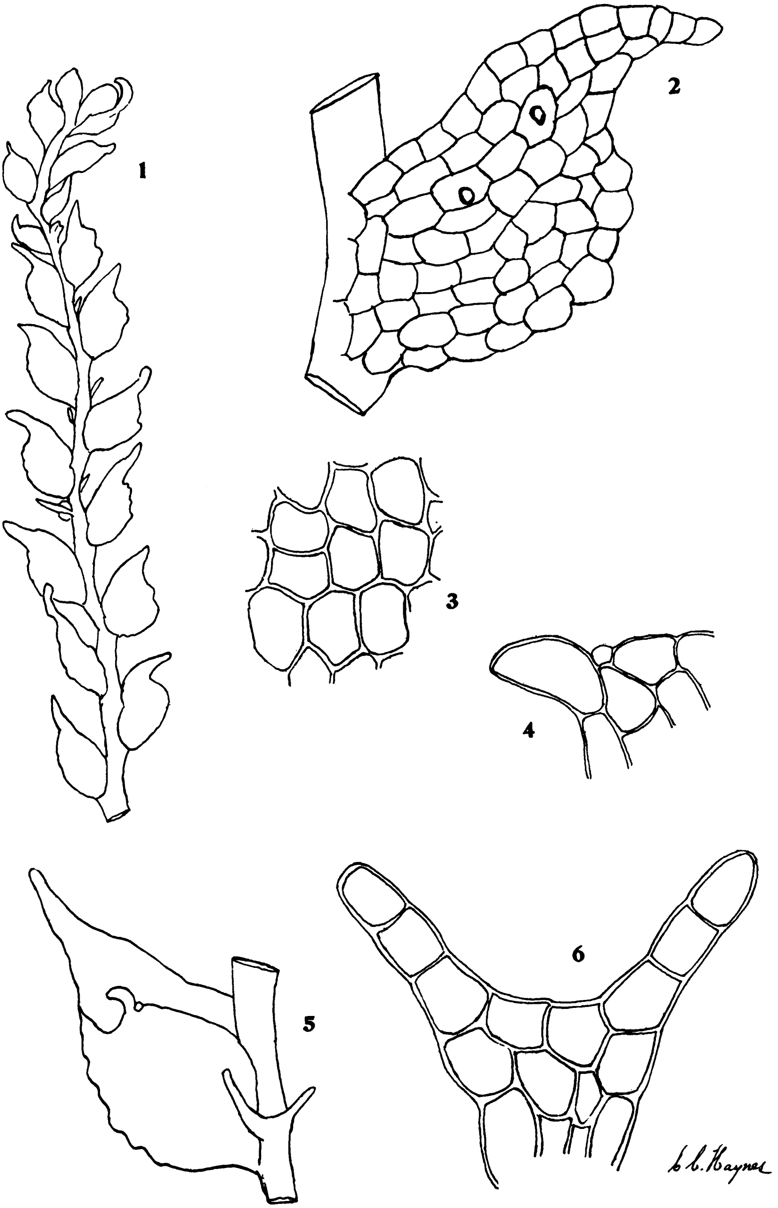

C. C. Haynes

Drepanolejeunea bidens (Stephani) Evans

mm. wide, somewhat narrowed toward the base and attached by an almost longitudinal line of insertion, margin subentire or slightly crenulate or denticulate from projecting cells, rarely with a larger blunt tooth near end of keel, apex long-acuminate, ending in a row of two or three cells; lobule strongly inflated at base and along keel, broadly ovate, 0.15 mm. long, 0.1 mm. wide, keel strongly arched, slightly roughened in outer part from projecting cells, free margin plane and appressed to lobe, passing beyond apex by a lunulate sinus to end of keel, apical tooth strongly curved; cells of lobe somewhat convex, their walls slightly but uniformly thickened, averaging 19 × 14 μ; ocelli commonly two, one at the base of the lobe, the other at about the middle, indistinct; underleaves distant, basal portion quadrate or rectangular, 0.03 mm. long, marginal cells six, divisions obliquely to widely spreading (up to 0.07 mm.), each consisting of two or three cells in a single row, rarely two cells wide at base: inflorescence dioicous: ♀ inflorescence borne on a very short branch innovating on one side with a simple and sterile innovation; bracts obliquely spreading, unequally bifid, the lobe ovate, 0.35 mm. long, 0.15 mm. wide, long-acuminate, the margin coarsely and irregularly dentate or spinulose-ciliate, usually with from four to seven teeth, lobule irregular in shape, 0.25 mm. long, 0.08 mm. wide, acute to acuminate, margin as in lobe, but usually with fewer teeth (mostly one to five); bracteole connate on one side, ovate, 0.3 mm. long, 0.15 mm. wide, bifid about one-third with erect, subacuminate lobes and narrow sinus, margin as in bracts, usually with from five to twelve teeth in all: perianth broadly obovoid, 0.4 mm. long, 0.3 mm. wide, gradually narrowed toward the base, truncate above and with a short beak, terete below, sharply five-keeled in upper part, the keels projecting outward as subacute, slightly dentate horns; ♂ inflorescence unknown."

EXPLANATION OF PLATE III

1. Part of plant, antical view × 63
2. Leaf, antical view showing the two ocelli (*See* Note "A" below) × 287
3. Cells from middle of lobe × 520
4. Apex of lobule showing unicellular papilla (*See* Note "B" below) × 520
5. Leaf, lobule and underleaf, postical view × 287
6. Underleaf × 520

NOTE A. "Ocelli are not usually found in *Drepanolejeunea*. They are never conspicuous and their number (in the vegetative leaves at least) never exceeds two. Even in species in which they are normally present, many of the leaves, especially those which are poorly developed, fail to show them. The ocelli in most cases are no larger than the neighboring cells and usually retain their angular form even when their contents become lifeless. They are distinguished by the granular or fatty bodies which they contain and do not usually become hyaline and empty as in many other Lejeuneae. Sometimes the addition of potash solution brings them out more clearly. With regard to the uses of these ocelli practically nothing is known, although it is probable that they sometimes take part in the formation of the water sack."

NOTE B. Notice the peculiar curved apical cell or tooth. "At the base of the tooth on the side toward the axis there is present a slight depression or notch in which a unicellular thin-walled and hyaline papilla is situated. The terminal cell curves outward, coming into contact with the postical surface of the lobe and sometimes extending as far as the end of the keel, which in many cases curves forward and meets it."

The writer examined all of Ruth's specimens of Frullaniae and Lejeuneae in the herbarium of the New York Botanical Garden but failed to detect any additional specimens of *D. bidens*.

IN THE HERBARIUM OF THE NEW YORK BOTANICAL GARDEN

List of species collected by Albert Ruth, in Knoxville, Tennessee, in 1891–2:
Metzgeria furcata (L.) Dumort.
Jamesoniella autumnalis (DC.) Steph.
Lophozia bicrenata (Schmid.) Dumort.
Cephalozia bicuspidata (L.) Dumort.
Cephalozia curvifolia (Dicks.) Dumort.
Odontoschisma denudatum (Mart.) Dumort.
Bazzania trilobata (L.) S. F. Gray.
Radula complanata (L.) Dumort.
Porella platyphylla (L.) Lindl.
Microlejeunea bullata (Tayl.) Evans.
Microlejeunea Ruthii Evans.
Drepanolejeunea bidens (Steph.) Evans.
Leucolejeunea unciloba (Lindenb.) Evans.
Frullania Asagrayana Mont.
Frullania Brittoniae Evans.

It is interesting to notice that this last mentioned species, undescribed at the time, occurs in several pockets, on one of which Professor Underwood figured the underleaf, on another he wrote "large auricles, fruit," and on a third wrote "Good, Frull. near Asagray."

HIGHLANDS, N. J.

Odor of Conocephalus.—When out in ravines in the vicinity of Pittsburgh on different trips this fall, attention has been called repeatedly to the pungently spicy fragrance of *Conocephalus conicus.* Lately this has become so strong as to be characterized by most people as rank and unpleasant. On quiet days near little falls in our ravines the plant can sometimes be smelled before it is to be seen. Is this odor due to an oil in large brown oil-bodies in certain cells?[1] And is it a reserve food-product stored up with the advent of colder weather?

O. E. J.

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[1] Schiffner, V. Die Natürlichen Pflanzenfamilien **1** (III): 18.1909.